

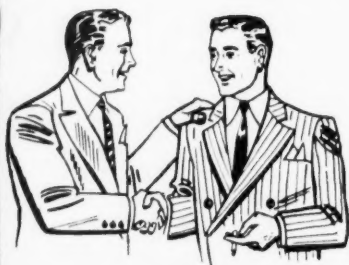
COAL MINING

OCTOBER, 1953

published by Modern Mining Publishing Co.
4575 COUNTRY CLUB DRIVE • PITTSBURGH 27, PA.

VOLUME 30, No. 10

**YOU CAN *DEPEND* ON
MINING EQUIPMENT
FROM**



Highway!



Allis-Chalmers HD-20 operated by NATALI COAL CO., Elizabeth.



Jaeger Pump at DIAMOND T STRIPPING CO., New Milport.



Lima Paymaster used by HARBAUGH & KIMMEL, West Newton.

Highway

EQUIPMENT COMPANY

6465 Hamilton Ave. • Pittsburgh, Pa.



ALLIS-CHALMERS • JAEGER • BAKER • GARWOOD • HOUGH
• MASTER • THOR • WAYNE CRANE • GENERAL MOTORS DIESEL
ENGINES • LIMA SHOVELS, CRANES, DRAGLINES • ERIE BINS

the tractor with anti-friction drive



Free-rolling tires reduce power loss, upkeep costs

If trucks still ran on metal wagon wheels instead of on pneumatic tires, you'd know what to expect. Slower speeds, harder riding, wasted power, and higher maintenance bills, to mention a few disadvantages. The same limitations apply to slow-moving crawler tractors, compared to rubber-tired Tournatractors. Crawlers naturally run slower — 3 to 8 mph as compared to Tournatractors' 19 mph. And, of course, crawlers ride harder, drive harder, than Tournatractors, and their tracks cost more to maintain.

Think it over

Obviously, with crawlers, you get a major loss of power due to the friction of hundreds of wearing parts grinding in grit. Power that should be converted to speed is spent in turning metal against metal in bearings that just can't be sealed against sand and abrasive materials. So with crawlers you get the slow, "lumber wagon" type of operation . . . plus expense and delay of continuous replacement of ground out sleeve bearings, pins, and track links.

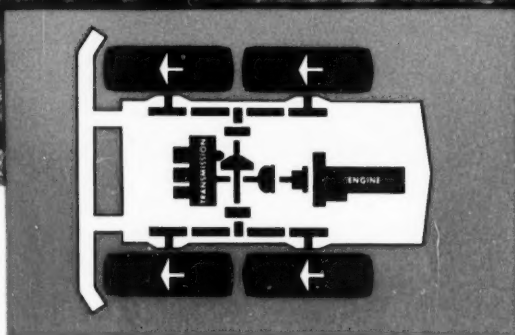
With Tournatractor, big low-pressure tires roll over grit — do not grind in

it. These tough, flexible treads operate on pressures as low as 12 lbs., provide top traction and flotation in any footing. And from engine to tire, your load rides on fast, smooth anti-friction bearings sealed against grit, dust, and water!

Tournatractor tires give you even better service than truck tires. They're bigger, stronger, tougher . . . better adapted to withstand shocks. Their tapered-head

provides *double* the rim-grip. This, plus wider rims, reduces tube, flap, and head chafing . . . permits retreading . . . gives greater operating stability. Rayon-cord construction adds flexibility, strength, and long life to tire carcass.

Put this anti-friction, low-upkeep, speed and power to work for you, with 186 h.p., 19 mph Tournatractor. Ask for cost and output data on work like yours.



Tournatractor anti-friction drive gives you:

Greater speed for getting jobs done. Tournatractor's 19 mph speed forward (8 mph in reverse) increases daily output, reduces net cost. Outproduces crawlers 2 to 1.

Less expense . . . low-pressure rayon-cord construction resists body breaks, makes tire beads last longer. Time and expense of track maintenance are eliminated for good.

Less engine power wasted because rolling resistance and friction with big rubber tires is far less than that of slow-moving tracks, with their hundreds of moving parts.

Better service from retreads because tapered beads grip tighter, tires have a minimum of bead chafing, stand up for recap service.

Greater traction, flotation for successful operation in sand, mud, snow or ice. Goes anywhere — over rails, curbs or pavement without planking.

Greater shock absorption . . . less equipment maintenance needed . . . safer control . . . less operator fatigue.

Job-to-job mobility . . . fast, profitable job-to-job and on-the-job mobility, maneuverability. Eliminates loading and trailer expense . . . saves extra man hours.

Help in compaction . . . big tires roll out voids, don't break or crumble material . . . need less haul road maintenance.

— Tournatractor—Trademark T-354-G-bm



R. G. LeTOURNEAU, INC.
Peoria, Illinois

McCarthy drills

CUT DRILLING COSTS

BLAST HOLE DRILLS

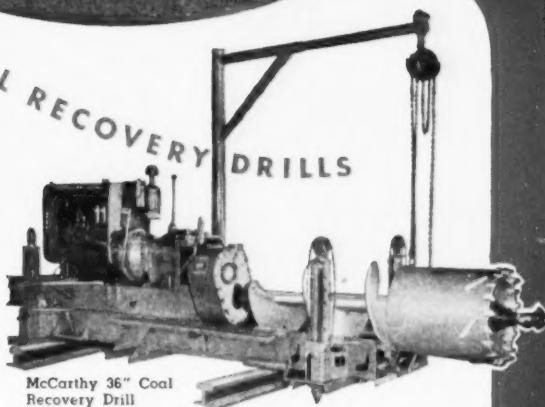
At Bessemer Limestone and Cement Co., Bessemer, Pa., one McCarthy Blast Hole Drill, like the one pictured below, averaged 90 ft. an hour, working through a hard blue shale facing 34 ft. deep. Holes were drilled on 18 ft. centers. Two men handled the whole job, including set-up and moving. Bessemer officials were so pleased with the performance of the McCarthy Drill that a second one was ordered and put to work in another section of their quarry. It, too, is breaking all previous records for fast, low-cost shot hole drilling.

**Heavy
Rugged
Powerful**



McCarthy
Model 106 Vertical Drill

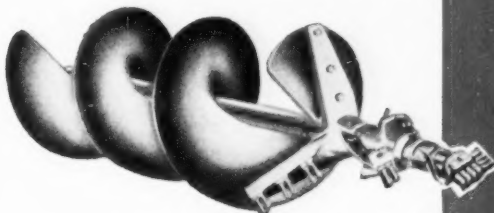
COAL RECOVERY DRILLS



McCarthy 36" Coal
Recovery Drill

Near Salineville, Ohio, a three-man crew, operating a McCarthy Coal Recovery Drill, similar to the one shown above, produced 90 tons of clean, high-grade and profitable coal in one eight-hour day. At Germano, Ohio, a three-man crew, using a 36" diameter auger section, produced 167 tons of coal in one eight-hour day!

Hydraulically controlled and operating on gasoline, diesel or electric power, rugged McCarthy Coal Recovery Drills produce coal at \$1.50 to \$2.00 a ton, including amortization of investment cost. You can select from four models . . . 20" to 24", 30" to 36", 42" and 48" diameters with 4-ft. to 24-ft. auger sections. Write Salem Tool direct and a distributor will call on you.



THE SALEM TOOL COMPANY

763 S. ELLSWORTH AVE.
Self-propelled high-wall Blast Hole Drill

SALEM, OHIO, U. S. A.
24" Coal Recovery Drill



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PENN

TELESCOPIC HOISTS
...do it the easy way
up to 50 ton capacity



- 1—Rugged Construction.
- 2—Fan and Gusset type hinge. 16" bearing surface . . . 3" rear shaft.
- 3—Polished and ground sleeves.
- 4—Heavy duty 2½" roller bearing pump and hoist meter.

HERE is a telescopic hoist that was designed as a rough and ready companion for Penn Steel Dump Bodies. Requiring a minimum of maintenance and built to give long trouble-free service, Penn Telescopic Hoists lift heavy loads with ease without the risk of bending or twisting. No cams, levers, arms or rollers are used—lifting power is applied directly to the load. **BE SURE OF THE BEST—Specify PENN!**

PENN BODY DIVISION **HOCKENSMITH CORPORATION**

Telephones: Jeannette, Pa. 700 . . . Pittsburgh, Electric 1-1242 **PENN, PA.**

GET THE **FACTS**

ON CATERPILLAR SERVICE



The pages of this magazine are filled with advertisements of dealer service. They make claims to equipment users about facilities, shop equipment and personnel. But *facts* speak louder than words. A visit to any of the establishments advertised will show you whether they can back what they say with action.

That's why we invite you to visit our shops, talk to our personnel, see our specialized tools, look over our vast parts stocks. You'll see facts, not words, and you'll make *your* Caterpillar Dealer *your* service headquarters.

BECKWITH MACHINERY CO.

6550 HAMILTON AVENUE., PITTSBURGH, PA. • OLD TOWN ROAD, CLEARFIELD, PA. • EAST BROADWAY, FARRELL, PA.
361-369 CONGRESS ST., BRADFORD, PA. • 1356 E. 12TH ST., ERIE, PA. • BUCKHANNON PIKE, CLARKSBURG, W. VA.

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U. S. ROUTE 250, CADIZ, OHIO • 4000 LAKE PARK ROAD, YOUNGSTOWN, OHIO

WALKER MACHINERY CO.

(Formerly Statewide Equipment Co.)

1545 HANSFORD STREET, CHARLESTON, W. VA. • 4010 EMERSON AVE., ROUTE #2 PARKERSBURG, W. VA.

CM-4

CATERPILLAR

Look to the next
three pages for
cold-money facts...

GET THE

FACTS

FROM YOUR CATERPILLAR DEALER

Don't be misinformed...or uninformed. Weigh *all* the facts before you decide on *any* piece of equipment. Weigh original price, which may seem important, but means little on the job. Look at past performance records—a machine may look and sound good, but production and operating costs are what count. Your Caterpillar Dealer has *these* facts and can present them to you—clearly—and he can prove decisively that Cat Equipment can do your work and make you money. Get the facts and ask for a demonstration!



**CAT GRADERS
HAVE NO
COMPARISON
IN
LOW COST...**

Make	Average Age	Average Cost Per Hour	Hourly Costs in Excess of Caterpillar
"A"	3½ yrs.	\$3.02	\$1.93
"B"	4 yrs.	2.02	.93
"C"	3 yrs.	4.09	3.00
Caterpillar	6½ yrs.	1.09	—

FACTS ON THE COST

OF OWNING CAT MOTOR GRADERS

Initial cost of motor graders differs only slightly, yet the cost of owning and operating a Cat Diesel Motor Grader is far below those of ordinary graders. Caterpillar Graders have set these low work cost records by staying on the job through thousands of hours. These competitive records show how Cat Motor Graders cut costs for others AND they can do the same for you.



**COMPARE
THESE DW10
JOB FACTS
AND
FIGURES**

Job	Earthmover	Haul Length (Round Trip)	Load-Haul- Dump-Wait Cycle Time	Material	Yds./Hr
A	DW10s with No. 10 Scrapers	6000'			
B	DW10s with No. 10 Scrapers	4400' (with grades)	5.95 min.	Wet, Sandy Clay	90.9
C	DW10s with No. 15 Scrapers	2350'	5.40 min.	Sandy Gravel	105
D	DW10s with No. 15 Scrapers	2350'	4.17 min.	Clay and Loam	190
			4.07 min.	Hard Clay and Heavy Loam	175

FACTS ON PRODUCTION

WITH CAT DW10 EARTHMOVERS

The measure of an earthmover is how many yards it can move each hour and the cost of moving each one of those pay yards. The Caterpillar DW10 excels at high production and low cost—and can prove it with job reports from every section of the country. Look carefully at these facts—then ask your dealer for more!

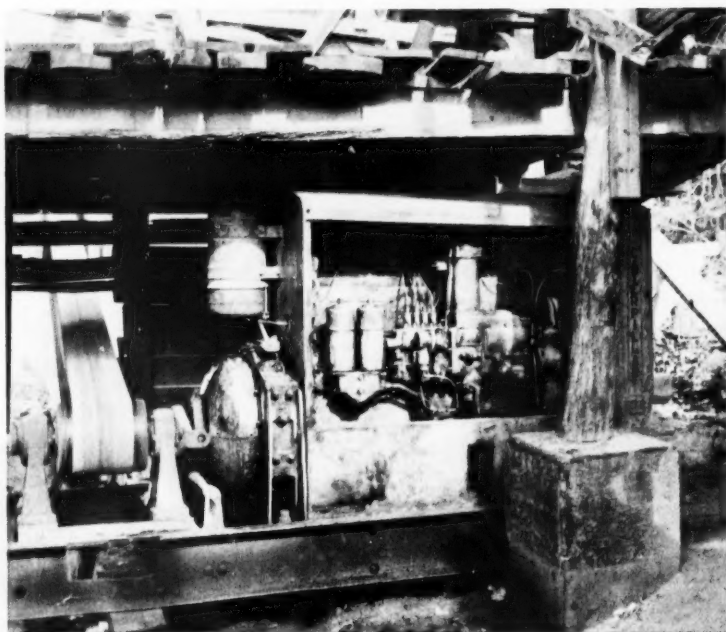
GET THE **FACTS**

OF CATERPILLAR* LONG LIFE

FOR CONSTRUCTION MEN ONLY

There's real proof of Caterpillar Diesel Engine longevity right in your own neighborhood. Every territory in the country has at least one Cat* Diesel with tens of thousands of work hours behind it—and we would be glad to show it to you. These veterans are undeniable evidence that Caterpillar Diesels serve longer and more profitably than ordinary Diesels. Call on us for a visit to one of these exponents of long life...and for the inside facts on why they are able to rack up such records. There's no obligation, so pick up phone right now.

53,800 HOURS ON THE ROCK PILE...are behind the Cat D8800 owned by High Point Quarries Co. The company also uses a D17000, a D13000, and a veteran D11000 in its quarrying operations. There are still many thousands of work hours in the D8800 for many other Cat Diesels have racked up 75,000 to 100,000 hour records.



BECKWITH MACHINERY CO.

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CM-4

*Both Cat and Caterpillar are registered trademarks — (R)

CAT CARE AIDS LONG LIFE—USE IT!



COAL MINING

Vol. XXX October, 1953 No. 10

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Victor Seals

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Brady and Sidney Streets, Pittsburgh 3, Pennsylvania



Manufacturers and Lubrication Engineers Since 1890



Lubrication Engineering follows an established, definite pattern of studying the Machine and recommending a lubricant to meet the situation.

Let our engineer discuss with you the **NEW DEVELOPMENT IN HYDRAULIC** lubrication.

STIFFLER INDUSTRIAL LUBRICANTS CO.

Etna, Penna. Phone St. 1-1571 and 1-2660

DISTRIBUTORS

OSGOOD - GENERAL, shovels, draglines, Cranes.

GRADALL multi-purpose excavators.

BARNES mine and construction pumps.

DAVEY air compressors for strip and deep mines.

LESSMANN stock pile loaders.

INDEPENDENT pneumatic tools.

WOOLDRIDGE Terra Cobra scrapers.

AIR HOSE - DRILL STEEL - COIL POINTS

DUMP TRAILERS

WINCH-LIFT, INC.

AGRCAT TRACTOR will save you labor, save you time, save you money.

CONTE EQUIPMENT CORP.

P. O. Box 8607

Pittsburgh 21, Pa.

Phone Brandywine 1-4380

dynamic new engine gives the popular D Motor Grader increased work power

The thousands who own Allis-Chalmers Model D's know the ability of these versatile machines to do outstanding work on both construction and maintenance jobs. Now — with extra power and added features — the Model D sets even higher performance standards in the low-cost grader field.

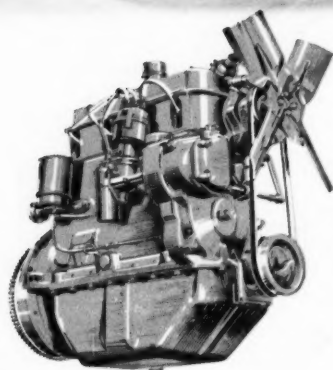
Dynamic New Power Crater Engine gives the Model D reserve power to : (1) handle the same loads in higher gear or bigger loads in the same gear, (2) increase road speeds, especially where there are grades, (3) reduce need for shifting, thus lengthen clutch life, (4) give better all-round maneuverability. There's plenty of power to crowd while loading with the rear-end loader. Engine throttles down to half speed *and still does the same job* — on low-speed work.

Leaning front wheels* enable the Model D to handle new jobs . . . counteract side-draft on ditching and bank cutting.

Power circle turn* permits easy positioning of blade from operator's seat. When finishing subgrade or blacktop, for example, moldboard can be readily rotated without disturbing road surface.

These and other big-grader features — such as ground-gripping Tandem Drive, ROLL-AWAY Moldboard, Tubular Frame and Power Controls — combined with extra power make the Model D the accepted leader in the low-cost grader field. Ask your Allis-Chalmers dealer to demonstrate on your own job.

ROLL-AWAY is an Allis-Chalmers trademark.
*Optional equipment



**POWER CRATER Engine
brings truly modern power
to the Model D**

This new engine boosts power while using less fuel per horsepower. It obtains high-octane performance when using regular gasoline. Only by watching a new Model D work can you fully realize what this truly modern engine adds to its performance!

Weight: 8,800 lb. (bare) • Brake Horsepower: 50
4 Speeds forward to 25.6 mph.
Reverse Speed 3.3 mph.



ALLIS-CHALMERS
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.



*For Coal Loading
For Coal Stripping*

Four Powerful MARION MACHINES

In the $\frac{3}{4}$ to $3\frac{1}{2}$ cu. yd. size range

MARION 33-M—Available as a $1\frac{1}{4}$ cu. yd. coal loader or as a standard $\frac{3}{4}$ cu. yd. machine. Shovel boom length is 18', handle length 14'-5". Dragline boom lengths, 35' to 50'. Equipped with MARION Air Control. Bail pull, 23,550 lbs.

MARION 43-M—Offered as a $1\frac{1}{4}$ cu. yd. coal loader or a standard 1 cu. yd. shovel. Shovel boom length is 21'-6", handle length is 16'-4". Dragline boom lengths, 35' to 50'. Equipped with MARION Air Control.

MARION 362—As a coal loader, the MARION 362 is equipped with a $1\frac{1}{2}$ cu. yd. dipper, a 28'-0" boom and 21'-8" handle. As a stripping shovel, the 362 carries a $1\frac{1}{4}$ cu. yd. dipper on a 28' boom and 21'-8" handle. Dragline boom lengths from 50' to 70'.

MARION 93-M—As a coal loader, the MARION 93-M carries a $3\frac{1}{2}$ cu. yd. dipper, a 34'-0" boom and a 25'-4" handle. As a stripping shovel, the 93-M is equipped with a 2 cu. yd. dipper, a 34' boom and a 27'-6" handle. Dragline boom lengths from 60' to 80'.

If your coal loading or stripping operations call for a shovel or dragline in the $\frac{3}{4}$ to $3\frac{1}{2}$ cu. yd. size range, be sure to get the complete story on these four MARION machines. Contact your nearest MARION distributor or District office or write to the factory at Marion, Ohio.

MARION

POWER SHOVEL CO.
MARION, OHIO, U. S. A.

OFFICES AND WAREHOUSES IN ALL PRINCIPAL CITIES



from $\frac{3}{4}$ cu. yd.
to 45 cu. yds.

TO HELP SELL COAL...

BCI Advertises to the Industrial, Commercial and Institutional Markets.

Each month, full-page messages like the one shown below—featuring either “off-track” or “on-track” installations—appear

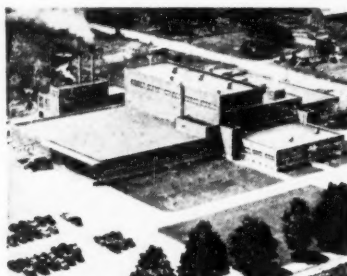
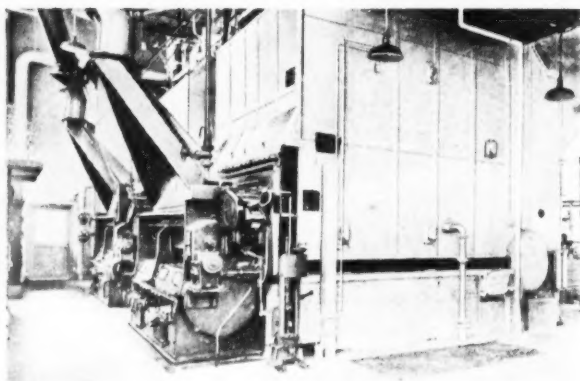
in the pages of *Business Week*, *Nation's Business* and a carefully selected group of power journals and trade magazines.

“COAL'S BEST FOR OUR MODERN PLANT!

It's low in cost...

It's clean and convenient!”

says G. W. Peters, Engineering Manager
M&R DIETETIC LABORATORIES, INC.
makers of PREAM & SIMILAC



“We made a careful study of fuels and burning equipment before building our modern new plant in Sturgis, Michigan. This plant was designed to produce baby food. So the steam plant has to be clean and dust free as well as economical to operate. Also, we wanted a fuel we could store safely and easily in order to insure ourselves against any shortages.

“We decided on bituminous coal—and the up-to-date installation shown here. It certainly fills the bill on every count. Our modern combustion equipment makes coal far more economical than any other fuel. Up-to-date coal and ash handling give us convenient operation completely free of dust nuisance.”

Additional case histories, showing how other types of plants have saved money by burning coal the modern way, are available upon request.

Discover for yourself the great advantages of coal burned the modern way. Call in a consulting engineer. He'll show you how today's combustion equipment can give you 10% to 40% more power from a ton of bituminous coal than from equipment used only a few years ago. He'll show you how modern labor-saving coal and ash-handling equipment make a coal-fired installation clean, convenient, and dust-free.

If you plan to remodel or build a new plant, be sure to look into the low cost and convenience of bituminous coal. Consider coal's other advantages, too. It has reserves that are virtually inexhaustible. America's bituminous coal mining industry is the most efficient and productive in the world. With bituminous coal, you can be sure of plenty of fuel at relatively stable prices now and for years to come.

If you operate a steam plant, you can't afford to ignore these facts!

BITUMINOUS COAL in most places is today's lowest-cost fuel, and coal reserves in America are adequate for hundreds of years to come.

COAL production in the U.S.A. is highly mechanized and by far the most efficient in the world.

COAL prices will therefore remain the most stable of all fuels.

COAL is the safest fuel to store and use.

COAL is the fuel that industry counts on more and more—for with modern combustion and handling equipment, the inherent advantages of well-prepared coal net even bigger savings.

BITUMINOUS COAL INSTITUTE
A Department of National Coal Association
Southern Building, Washington 5, D. C.

FOR HIGH EFFICIENCY  FOR LOW COST
YOU CAN COUNT ON COAL!

Do You Know?

● Western Union officials here are trying out tired messengers to speed telegram delivery in the suburbs. The messengers are rubber-tired station wagons, however, not exhausted cyclists.

When a telegram is received at the central office, a station wagon cruising in the vicinity of the addressee is alerted by radio. Then the telegram is transmitted to the spinning drum of a Telefax set in the vehicle. By the time the telegram has been transmitted, the car has reached the message's destination. The driver merely slips it into an envelope, hops out of his traveling office and jabs the doorbell.

The experimental system enables one messenger to deliver more than nine telegrams an hour.

Company officials seem pleased with the results turned in so far by their six roving offices. When the "bugs" are worked out, they plan to extend the system to other cities.

They even are contemplating a private sort of traveling message receiver for the businessman who rides around in an automobile equipped with telephone. They believe that their Telefax receiver can be adapted to plug into this radio-telephone to take down in written form office memos, reports and messages sent to the man by his office.

● British engineers have developed a machine that locates reinforcing rods in set concrete.

Design engineers at Kolecric Ltd., London, report that construction engineers using the device can double check on reinforcing rod positions after the concrete has been poured. This reveals whether the rods worked out of position while the concrete was filling the forms.

Called the "Covermeter," the device operates on an electro-magnetic principle. Alternating current is fed into a probe held over the concrete. The current acts upon one leg of a U-shaped core of metal, making an electromagnet of it. A coil is wound around the other leg and indicates the nearness of reinforcing rods by the amount of current induced in it.

● Nutritionists now recommend six meals a day for workers in heavy industry and for farmers, the Nutrition Foundation here reports.

Snacks between meals are especially important when work begins early in the morning, it is found.

A heavy midday meal and a two-meal-a-day schedule are not good from the standpoint of the worker's production efficiency.

The object of the frequent meals is to give the worker enough food so that his blood sugar does not fall below normal.

Feelings of emptiness and weakness, restlessness, irritability and decreased ability to concentrate go with long intervals between meals.

And that drowsy feeling with disinclination to mental or physical effort plus a slowdown in production after a large midday meal comes from a full stomach, but similar effects can be produced when the stomach is distended with air instead of food.

Here and There in the Coal Industry

● The 61st Annual meeting of the Illinois Mining Institute will open at 10 A. M. Friday, November 6, 1953, at the Hotel Abraham Lincoln, Springfield, Ill. Among subjects to be covered are "Safety Digest," "Coal for Kilowatts" and "Reclamation of Abandoned Works Through Use of Roof Bolts." The annual banquet will be held Friday night at 6:30 with Dr. Kenneth McFarland, Education Consultant for General Motors Corporation.

● The Peabody Coal Co. has announced the removal of its principal offices to Taylorville, Ill. At present, all officers are located in Chicago. In the move, which will become effective about January 1, Peabody's general accounting, sales order and analysis, traffic, engineering, purchasing and operating departments will be moved. The executive and general sales offices will remain in Chicago. According to Stuyvesant Peabody, Jr., President, the move is made in the interest of greatest efficiency, since the larger part of the Peabody mining operations are located near Taylorville and a new large operation is under construction in Christian County.

● On October 12th the U. S. Supreme Court denied certiorari in *Pond Creek Pocahontas Co. v. Bier*, thus leaving in force the decision of the lower court that a West Virginia statute prohibiting the use of petroleum as motive power in underground mines is a valid exercise of the police power and violates neither the Fourteenth Amendment nor the due process clause of the West Virginia Constitution.

● Richard Maize, 77, Secretary of the Pennsylvania Department of Mines from 1940 until January, 1953, died at his home in Uniontown, Pa., Saturday, October 10. Mr. Maize served as an inspector and Deputy Secretary of the State Mining Department for many years before becoming its head. Since leaving the Department, he had been engaged as a consulting mining engineer.

● H. A. Reid, Vice President in Charge of Operations, United Electrical Coal Companies, died in Chicago on Tuesday, October 20, after a prolonged illness. Mr. Reid served United Electric in this capacity for the past nine years and had been prominent in Illinois coal mining and engineering activities for many years. He is survived by his wife and one son. Services and interment at Duquoin, Illinois, Saturday, October 24.

● Charles H. Myers has been appointed Assistant to the Manager of the Mining Department of Mine Safety Appliances Company, Pittsburgh, it was just announced by C. M. Donahue, Vice President.

Mr. Myers, who has been with the company since 1939, formerly was a mining sales engineer in the Fairmont, West Virginia, area. He is a graduate of The Pennsylvania State College with an engineering degree.

To replace Mr. Myers in the territory, which includes areas of Monongahela, Marion and Preston Counties, W. Va., and parts of Greene and Fayette Counties, Pennsylvania, the company has appointed M. E. Condit. His headquarters will be in Fairmont.

Mr. Condit is a mechanical engineering graduate of Carnegie Institute of Technology. He joined Mine Safety Appliances Company in 1949. Before his transfer to Fairmont, Mr. Condit was stationed in MSA's Pottsville, Pennsylvania mining sales office.

The new MSA sales engineer in Pottsville is W. C. Endean, who had been with the company's International Department. Mr. Endean, a graduate of Pennsylvania State College, joined Mine Safety Appliances Company in 1942.

MSA's Pottsville office serves mines and quarries in Berks, Bucks, Cumberland, Dauphin, Lebanon, Lehigh, Monroe, Montgomery, Northampton and Perry Counties, Pennsylvania. Also, the following New Jersey counties: Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union and Warren.



Universal machine undercutting the face of the coal.



Face of coal top, bottom and right rib-sheared and drilled for shooting.

New Look Mine at the Haywood Coal Company

Over an indefinite period of time nature developed the brain of man which is so marvelous man himself is having a hard time trying to comprehend its functions.

Having developed, through evolution, a natural aptitude to improve his lot, man cannot stand still. This applies to his business undertakings as well as to his social aspirations.

We, in the coal industry, are a distinct, inseparable part of the make-up of civilized man. Because of the situation in which we find ourselves at present, we must, much more than men in other industries, push that aptitude to improve our lot.

Notable individual operational improvements are now taking place in many coal mines. Not enough multiple improvements have yet taken place, however, improve-

ments that indicate the desired look for future mines.

Various methods of mining are in use, such as continuous mining machines loading into shuttle cars for transfer to mine cars, or loading into shuttle cars for transfer onto belts that load mine cars. A few mines might be loading belts, from shuttle cars, than transport the coal all the way to the tippie. We must have and soon, continuous transportation of coal direct from the continuous miner to present sources of fuel or with the nuclear source of power soon to be offered by the fission of the atom, the atomic breeder reactor which makes as much fuel as it consumes. Then there is coming the fusion of the hydrogen atom which promises to make power and there is coming the harnessing of cosmic rays. Fission and fusion of the atom for power generation will in all prob-

ability be with us before the demand for one hundred million tons of coal annually that we heard so much about 12 months ago. Yes, the only salvation for part of the coal mining industry appears to be in full automatic mining.

The Ten Mile Mine of the Haywood Coal Company is assuming the kind of new look in the mine of tomorrow, inasmuch as it has no mine track for coal haulage, no mine cars and no mine timbers. Roof is all bolted. Belt conveyors transport the output from shuttle cars all the way to the tippie.

At present face operations include cutting top, bottom and right rib with Joy 10 RU machines, drilling the face with Schroeder Brothers high speed hydraulic safety drill and loading into Joy shuttle cars with Joy 11BU machine.

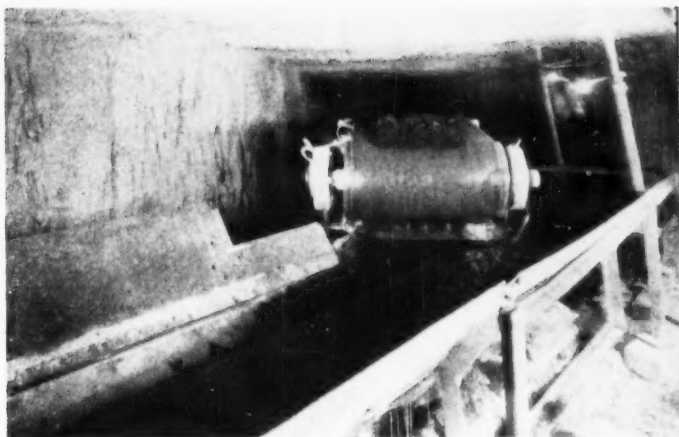
A continuous miner can be in-



Machine loading coal into shuttle car.



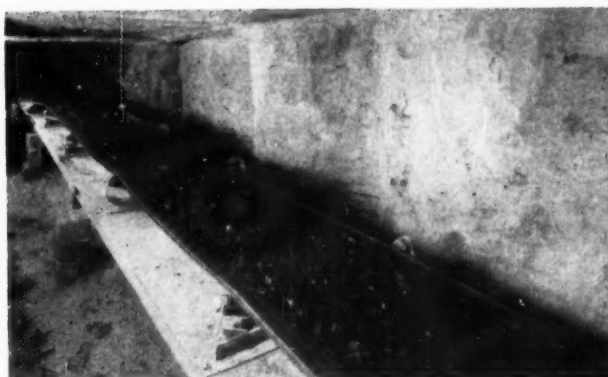
Shuttle loading onto entry belt.



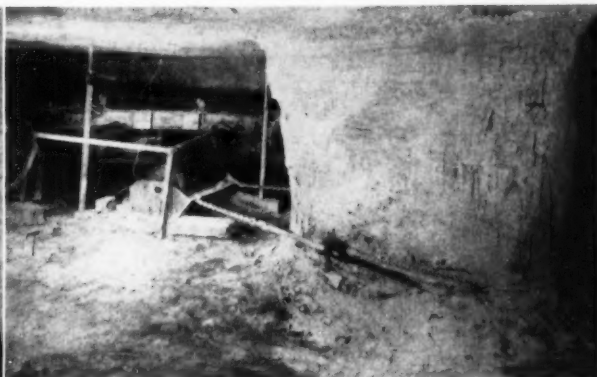
Entry belt transferring onto mother belt.



Entry belt carrying coal to the mother belt.



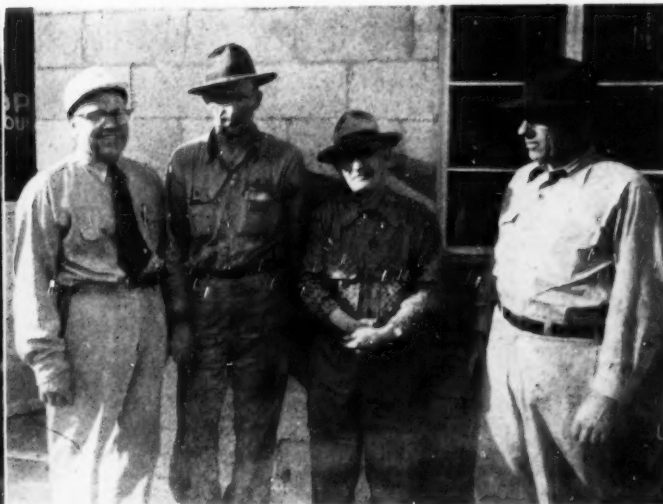
Mother belt transporting coal to the outside.



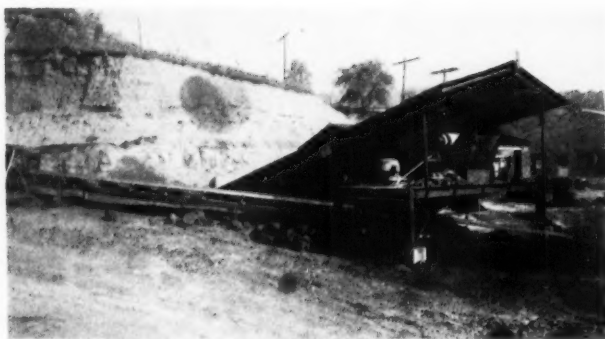
Mother belt is anchored onto pillar of coal left for that specific purpose.



Well-lighted Corridors



Left: L. F. Wilson, Supt.; Leslie Davis, Maintenance Foreman;
J. G. Kidwell, Pres.; and Brock Schowalter, V-Pres.



Mother belt at the mine mouth, transferring onto belt that takes the coal to the tippie.

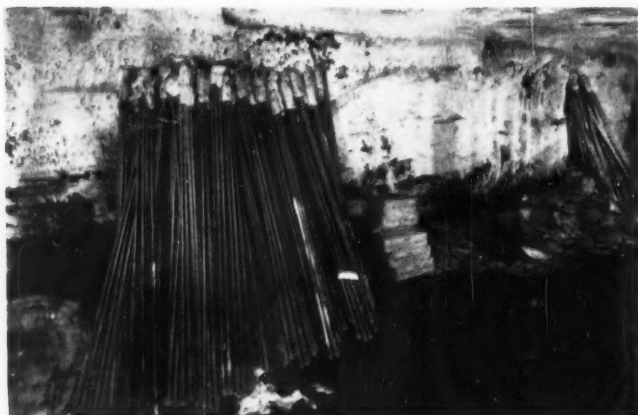


Over-all view of the belt that transports to the tippie. Roof bolts and supplies storage near working area in the mine.

stalled any time but the method of taking the coal direct from the continuous miner is still hidden somewhere in the brain of man. Devices for putting the mining machine on

automatic operation are with us now. Those we have, plus new ones that will be developed by the time our continuous miners are perfected and the "missing link"

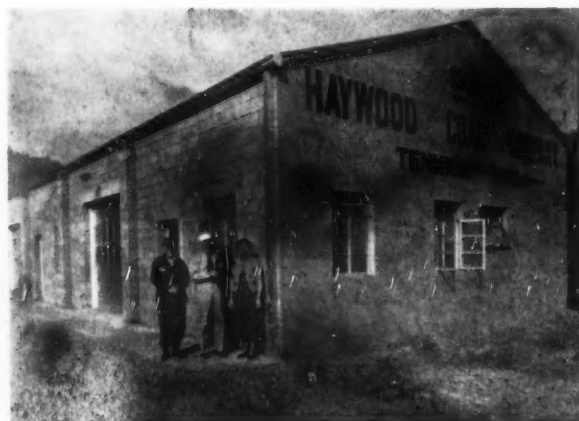
between the continuous miner and the means of transporting the coal to the tippie is worked out, will enable us to make the first attempt at full automatic coal production.



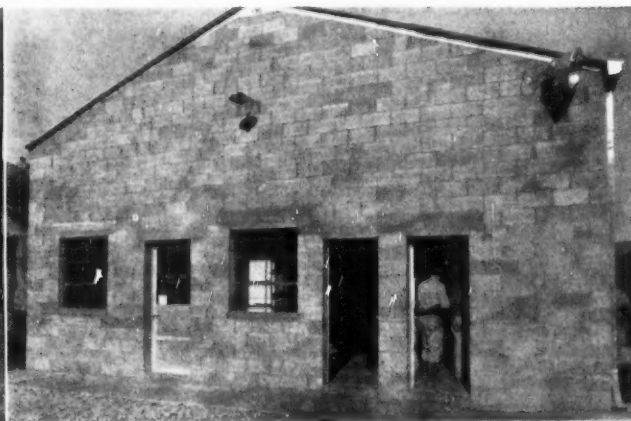
Roof bolts and supplies are stored near the underground working area.



Portable rock duster is used for dusting.



Mine office is in concrete block building which houses repair shop, lamp house official bath and mine foreman's office. Standing are; left Pauline Muffler, Secretary; Leon (farmer) Wilson, Supt.; and T. L. Aitken, V-Pres. Operation, Ebensburg Coal Co. who visited the mine.



Rear view of the concrete building, showing the foreman's office and lamp house.



Judges and other Meet Officials assembled for lunch before the meet.

SOUTHWESTERN PENNSYLVANIA SAFETY ASSOCIATION FIRST AID CONTEST HELD AT WAYNESBURG, PENNSYLVANIA



Dan Walter, U. S. Bureau of Mines, was director of the Meet.

Persons who have been suffocated by gas or rescued from drowning accidents have a better chance of survival because first aiders now are being taught an improved method of giving artificial respiration, called the back-pressure arm-lift method. It was developed by Holger Neilson of Denmark and used successfully in the Scandinavian countries for two decades before its official adoption in this country.

Here are directions for this life-saving method:



Olin Conrad and Clinton Hock, both Pa. Dept. of Mines, were time keepers



First place winners. Left, kneeling: Ed. Zematis, Harold Kersten, Sam Cortis, Stanley Soberl. Standing, left: Ed. Retinger, Captain; Ed. Kesneck, W. L. Kelly, Mine Inspector and Instructor of the team; W. L. Charlier. Standing with trophy is Chas. Ferguson, UMW, standing on right with plaque is E. M. White of the Mine Safety Appliances Co.



Front row, left: Mike Gerod, Supt. Robena Mine; John Reckus, Plant Production Supervisor; Mrs. G. H. Sambrook. Back row: Ed. Carroll, Asst. Supt. Robena Mine; Jack Boyle, Safety Dir. Robena Mine; G. H. Sambrook, Dir. Mine Inspection for U. S. Steel Corp.

Left: James Elkins, Gen. Supt. Mines, Duquesne Light Co.; R. M. Monteith, Safety Director, Weirton Coal Co.; W. G. Stevenson, Gen. Mgr. Mines, Hillman Coal & Coke Co.; C. B. Tillson, Supt. Mines, Crucible Steel Co.; E. W. Wilkison and C. E. Fisher, Mine Inspectors.



1. Place the subject in the face down, prone position. Bend his elbows and place the hands one upon the other. Turn his face to one side, placing the cheek upon his hand.

2. Kneel on either the right or left knee, at the head of the subject, facing him. Place the knee at the side of the subject's head close to the forearm. Place the opposite foot near the elbow. If it is more comfortable, kneel on both knees, one on either side of the subject's head. Place your hands upon the flat of the subject's back in such a way that the heels of the hands lie just below a line running between the arm pits. With the tips of the thumbs just touching, spread the fingers downward and outward.

3. Rock forward until the arms are approximately vertical and allow the weight of the upper part of your body to exert slow, steady, even pressure downward upon the hands. This forces air out of the lungs. Your elbows should be kept straight and the pressure exerted almost directly downward on the back.

4. Release the pressure, avoiding a final thrust, and commence to rock slowly backward. Place your hands upon the subjects arms just above his elbows, and draw his arms upward and toward you. Apply just enough lift to feel resistance and tension at the subject's shoulders. Do not bend your elbows, and as you rock backward the subject's arms will be drawn towards you. The arm-lift expands the chest by pulling on the chest muscles, arching the back, and relieving the weight on the chest.

The cycle should be repeated 12 times per minute in a steady uniform rate.

Doctors and scientists are learning new and better ways of first

aid that you and others can use in case of emergency. Everyone can learn what to do and not wait around for professional assistance while a life that might be saved is ebbing away. This is a startling fact: Each of us runs a 1-in-15 chance each year of being in an accident serious enough to cause disabling injury.

Here are some new procedures being taught in first aid classes today.

For doctors, there is a trend away from the use of blood plasma for patients in shock. Albumin from human blood is preferred. Dextran, one of the new blood expanders, is also being used increasingly, and other blood expanders are getting wider trial. This change is coming about for two reasons:

1. Blood plasma, life-saving though it can be, can and too often does carry the virus of one kind of hepatitis, or liver inflammation—jaundice to the layman.

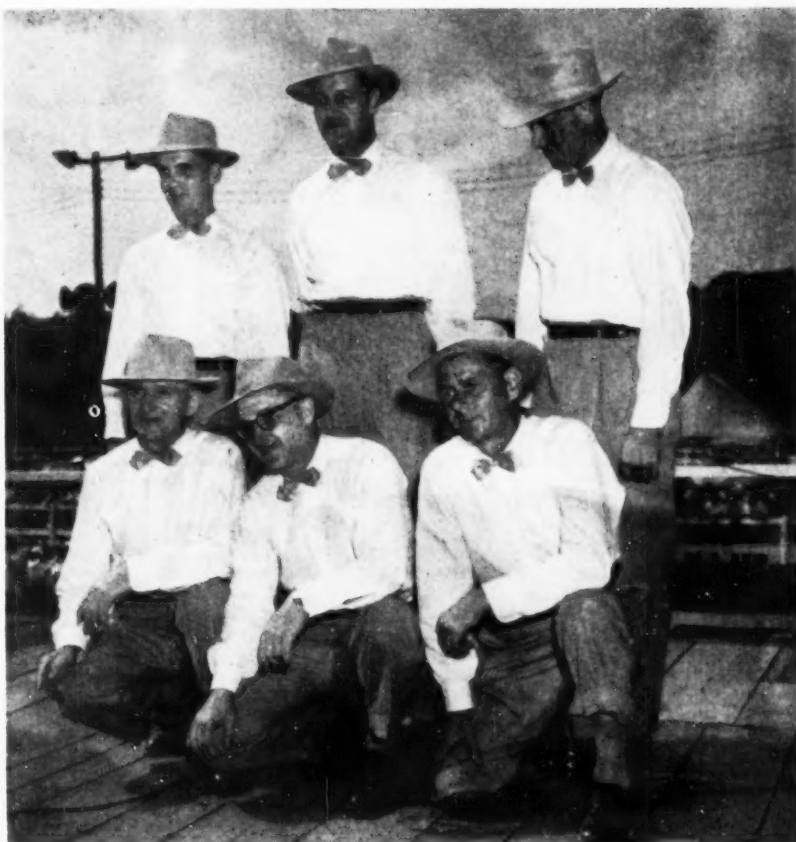
2. Supplies of blood and plasma have never been large enough for the mass casualties expected in case of atomic attack, and the blood expanders have been developed and tested and found satisfactory for helping out.

Latest change in first aid procedures for the layman concerns tourniquets. A tourniquet is an instrument for compressing a blood vessel. In case of severe bleeding from an artery, the first aider may not be able to stop the bleeding, or to keep it stopped, by manual pressure alone, that is pressing with his hands on the bleeding spot or the appropriate pressure point.

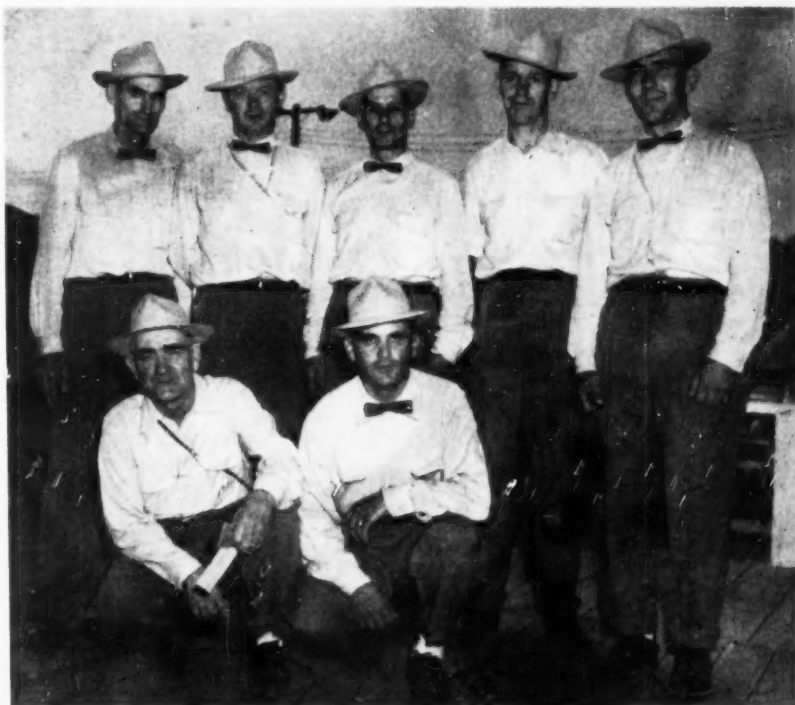
For many years first aiders were told that if they applied a tourniquet, they must be sure to release it every 15 or 20 minutes. Otherwise circulation would be cut off so long that the affected part of the body, such as an arm or leg, would turn gangrenous and die.

Some surgeons, however, have been saying for years that it is a mistake to loosen the tourniquet. There is too much danger of bleeding starting again. So now the Federal Civil Defense Administration, on the advice of the committee on surgery of the National Research Council, recommends that a tourniquet should not be released, regardless of how long it has been on, except by a doctor who is prepared to control bleeding by other means and to replace lost blood.

First aiders still will be cautioned



Second Place Team, left, kneeling: Rudy Renko, Jay St. Clair, M. J. Wilkens. Standing, left: Ray St. Clair, Captain; Peter Linden, Joseph Stutts.



Third Place team, left, kneeling: Albert J. Waggett, Chas. Bakus. Standing, left: Andrew Haskowich, Frank Cerra, Chas. McKnight, Albert Borchich.



Left: Allan Brookes, Chairman of the Committee; L. G. Black, Asst. Chief Judge; J. V. McKenna, Master of Ceremonies; R. G. Johnson, secretary-treasurer of the Asso.



Left: G. J. Steinheiser, Chairman Team Registration; Alex Grant, Gen. Mgr. Mines, Youngstown Sheet & Tube Co.; P. T. Latta, retired; A. D. Murphy, Director Safety, Crucible Fuel Co.; Bill Hart, Crucible Fuel Co.

not to use a tourniquet if they can stop bleeding by any other means. But the surgical authorities point out that it is better to risk gangrene in a badly damaged leg or arms than to risk life from hemorrhage by removing the tourniquet. Properly applied, a tourniquet can be left undisturbed for three or four hours with little risk of gangrene.

To show how to stop bleeding and how to give other treatments to the severely injured, the Navy now has a life-size plastic manikin that actually "bleeds". The pretend blood is a solution of glycerine, water and vegetable dye.

The compression and expansion

phases should occupy about equal time, the release periods being of minimum duration.

If you want to learn more aid methods, call your local Red Cross about joining one of their classes.

The Southwestern Pennsylvania Safety Association First Aid Contest was held at Waynesburg, Pennsylvania August 15. Twenty-eight teams competed. First place was won by the team representing the Westland Mine of the Pittsburgh Coal Company with a score of 99.933. Second place winners represented the National Number 3 Mine of the United States Steel Corp., Muse, Pa. with a score of 99.733.

Third place honors were won by the Montour Number 4 Mine of the Pittsburgh Coal Company with a score of 99.600.

This meet was held at the Waynesburg Fair Grounds, during the County Fair and attracted many spectators as well as many top coal mine officials. First team trophies were presented by E. M. White of the Mine Safety Appliances Company by Chas. Ferguson, representing the United Mine Workers of America.

The first team also received \$210 in cash, the second team \$175 in cash and the third team \$140 in cash.

● A cable reel for dozer use, designed to eliminate wastage of large quantities of wire rope due to the wearing out of small sections, is announced by LeTourneau-Westinghouse Company, Peoria, Illinois, manufacturer of heavy construction and lifting equipment.

Called the Tournarope bantam reel, its installation on a tractor is simple. This 14-inch reel, which holds 150 feet of 1½-inch Tournarope, is designed as a storage reel and is equipped with a bracket that can be welded or bolted on a trac-



tor. The Tournarope is threaded through the dead-end unit, through the sheaves and to the Power Control Unit.

When a section of rope shows wear, usually at the PCU point, it is cut off, and an amount of Tournarope equal to the section cut off is pulled from the storage reel, and reattached to the PCU.

This idea has worked successfully for years on scrapers and is being adapted for dozers. Before the new method was employed an operator used approximately 65 feet of wire rope to thread his blade. Installation time was costly. When the cable broke, there was usually a 50-foot section showing no wear, but unusable because of its short length.

With the Tournarope Bantam reel method a storage reel holds enough rope for many days of operation. Only a short time is needed to pull through and cut off the worn section of the cable. As many as six cuts can be made, saving fifty feet each time under the new method.



RICHARD WRIGHT — recently made President of the Penn Machine Co., Johnstown, Pennsylvania.

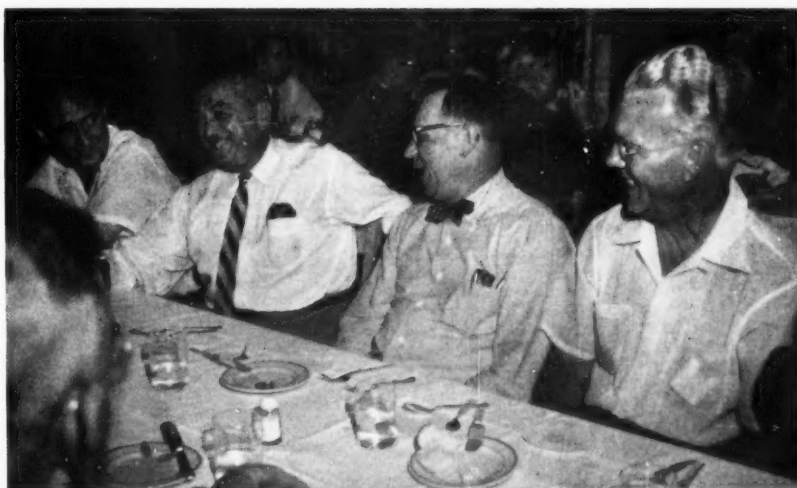


Left: A. H. Crayne, Mather Collieries Co., Arvil A. Ash, Consolidation Coal Co. (W. Va.), Dick Johnson, Mine Safety Appliances Co.



Left: Frank Dunbar, retired, Willard Griffen and L. P. Latta, retired.

Greene County Country Club Meeting of the Western Pennsylvania Coal Operators Golf Party



R. J. Barry, Mather Collieries, Herb. Dunbar, Superior Mine Supply Co., Max Caylor; and extreme right: Paul Becker, Mine Safety Appliances Co.

Machines instead of men now can do the biggest part in producing desperately needed electronic equipment for the armed forces during manpower scarcities.

The National Bureau of Standards and the Navy Bureau of Aeronautics revealed "Project Tinkertoy" — a mechanized production system for supplying new-design radar and radio sets in great quantities to the armed services in times of emergency.

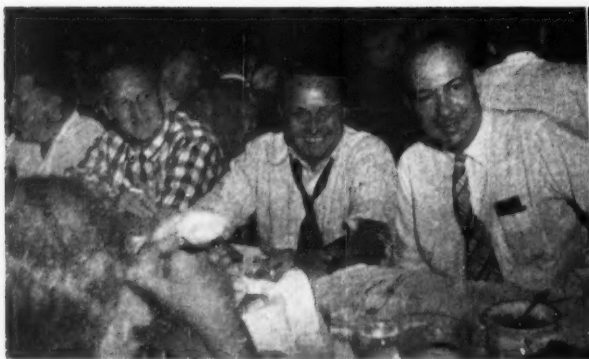
Proposed in 1948 by the National Bureau of Standards, the system has now been developed to the point where it is considered an apparent solution to industrial mobilization during periods of national crisis. A working pilot plant in nearby Arlington, Va., has proved the worth of the robot electronic system.



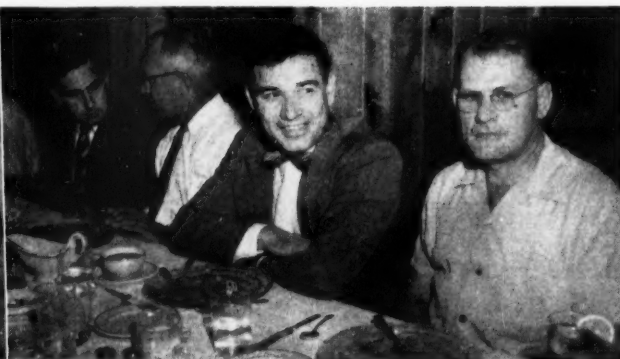
A. C. Overpeck, Okonite Co., E. D. Fortney, Valley Machine and Electric Co., Syd Gane, S. E. Gane Co., Ed Lee, Hewitt Rubber Co. of Pittsburgh



C. E. McGlaughlin, Asst. to Pres. Bituminous Coal Research, W. Harrison, O. O. Shott, W. N. Truxell, Chief Shipper, U. S. Steel Corp.



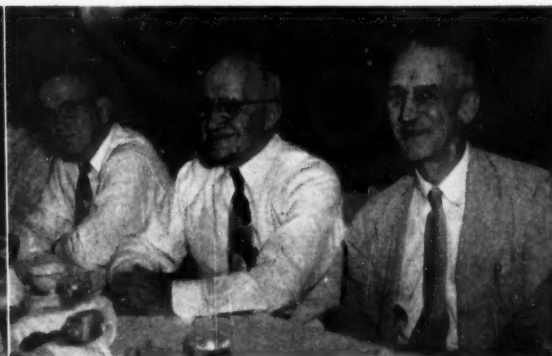
Roy Loew, Consolidated Fdry. & Machine Co., Elliott Williams, Hartley-Rose Co., R. H. (Dan) Boone, Bearing Service Co., Howard Miller, Crucible Fuel Co.



J. R. Woods, Rome Cable Co., W. F. Schiffbauer, Buckeye Coal Co., G. F. Lipscomb, Rome Cable Co., H L. Swihart, Buckeye Coal Co.



M. M. Fitzwater, Jr., Buckeye Coal Co., R. B. Crawford of R. T. Woodings, Inc., John Rhea, Electric Repair & Mfg. Co., H. Clay Hoy, Mather Collieries Co., Bert Benson, Ohio Brass Co.



David M. Jones, M. S. Mawhinney, Mfg. Rep.; and W. L. Lowry, American Car & Foundry Co.



Left: Harold Sager, Sager Coal Co., T. J. Reed, Chief Eng., Republic Steel Corp., Russel Vance, Joy Mfg. Co.



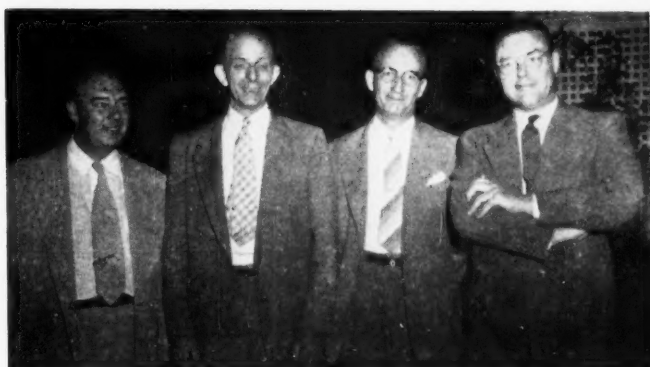
C. E. Watts, Haws Refractories, Inc., L. T. Lowey and Red Sternbotzel, both of Sternbotzel Service, Homer Rose, Tool Steel Gear and Pinion Co.



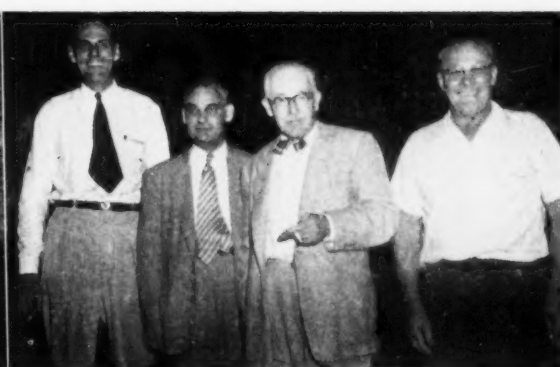
Left: Guy Little, Penn Machine Co.; H. Lang, Industrial Electric Co.; H. W. Hawkins, and H. C. Nyquist, Joy Manufacturing Co.



M. E. Condit, Mine Safety Appliances Co.; Ed Vant, Jeffrey Mfg. Co.; J. M. Connor, Allegheny Pittsburgh Coal Co.; J. P. Howell, Jeffrey Mfg. Co.



Left: Fred Colley, Penn Machine Co.; John Rhea, Electric Mfg. and Repair Co.; J. T. Price, Supply Supt., Consolidation Coal Co. (W. Va.); Geo. C. Hutchinson, Jr., Mfg. representative.



Left: Bill Schroeder, Schroeder Brothers; O. W. Hughes, Earl Claycomb, Frayzee Lumber Co.; Josh Milam, Joy Manufacturing Co.

Technically known as Mechanized Production of Electronics, the new system is built around the idea of a basic circuit part called a module. A thousand modules can be produced in an hour. The module is an array of several wafer-like squares of a ceramic material.

Upon each ceramic wafer is printed a section of an electronic circuit. Threads of silver from the wiring and special adhesive tape makes up the resistors. Tiny ceramic condensers and vacuum tube sockets then are added where needed.

Several of these wafers then are machine-assembled to form the module, a major subassembly in the electronic gear being produced. The modules then can be put together to form the radar set, radio or electronic bomb sight.

The desirability of the new system lies in its flexibility, production speed and minimum manpower requirements. Major improvements can be worked into the equipment on the assembly line within 24 hours. Thus if a device designed for the tropics suddenly must be modified for Arctic warfare, the time lag in its production can be cut 75%.

Few men are required to run the plant. Technical know-how is stored on punched cards that feed metal-fingered robot "hands" with the necessary information.

The system is mechanical even to the point of automatic mechanical and electrical inspection, dictated by the tiny holes in the cards. All this gets around the need for hiring and training large crews of technicians — men whose special skills might be critically needed elsewhere.

During peacetime, the system

can be used to produce civilian electronic equipment. It also can be balanced to manufacture both civilian and military equipment at the same time.

The more we apply automatic machines to production of materials, the more the coal mining man will see the feasibility of automation and the sooner we will have automatic coal mining.

The Greene County Country Club golf party of the Western Pennsylvania Bituminous Coal Operators Golf Association, at Waynesburgh, Pennsylvania was well attended by officials of coal producing companies and representatives of mine machinery manufacturers and offered an excellent opportunity to discuss mine mechanization problems.

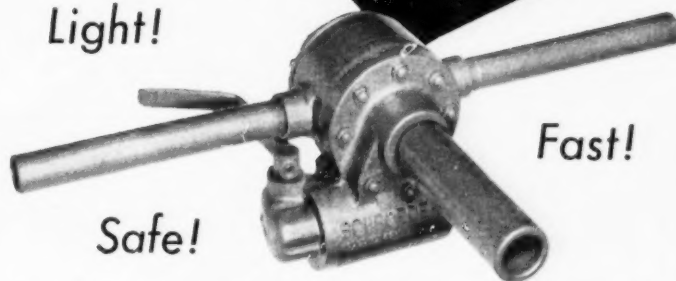
here's the *New*
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SCHROEDER
Coal Drill

Light!

Safe!

Fast!



Powered from the hydraulic power system of standard mining equipment, the Schroeder 12-B Coal Drill provides plenty of power for fast drilling with complete operational safety—never any spark, kick, or shock—all electrical hazards are removed yards from the drill! Lightweight and dependable, its design simplicity and minimum of parts result in greatly reduced maintenance costs.

Write or call for details and demonstration.

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Pittsburgh 1, Pa.

SCHROEDER BROTHERS

HYDRAULIC, ELECTRIC & PNEUMATIC MINING EQUIPMENT

EXpress
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The Lima 2400 shovel stripping Upper Freeport Seam.

Kingwood Mining Company Strips Three Seams In Northeast Corner of Preston County, West Virginia



Caterpillar D-8 tractor pushing dirt on spoil bank.



This stripped area in the lower Freeport seam is being back filled with scraper.

the Bakerstown seam is present in the higher hill tops. There the Bakerstown and the Upper Freeport coals have been stripped extensively.

In the extreme northeast corner of Preston County, the Bakerstown and Upper and Lower Freeport seams lie above stream bottoms and all seams are strippable.

The Kingwood Mining Company's operation lies North of the village of Brandonville, about three miles South of the Pennsylvania State Line. At that point the Bakerstown seam is stripped when found. The principle operations are carried out in the Upper Freeport coal with one strip shovel-cut in the outcrop of the Lower Freeport seam which lies from 30 to 38 feet below. The Upper Freeport coal runs from four to five feet thick and the Lower Freeport from 22 to 24 inches thick.

Overburden is principally loam, yellow shale that turns to rock as overburden gets higher. The higher overburden is drilled with McCarthy and Mayhew drills. The stripping is done with a Lima Model 2400 shovel and 18 cubic yard Caterpillar scraper, pulled by a D-8 Caterpillar tractor. In the higher overburden areas the Lima shovel is assisted by a Caterpillar D-8 tractor on the spoil bank.

The coal is loaded with a Lorain Model 820 shovel. Hauling of the coal is done by contract and the coal is hauled 21 miles to the Public Utility plant at Abright, West Virginia.

Just East of Morgantown in Northern, West Virginia, the Freeport seams of coal rise to the sur-

face and, in some areas, the Upper Freeport coal lies above stream bottoms. About 10 miles to the East,

● Production of heat directing side panels for use with the Model PW-189 Fageol Heat Machine is announced by the Fageol Heat Machine Co., Detroit.

Made of heavy sheet steel, the panels cover heat outlet openings of the portable heater and can be used singly or in pairs to direct heat as desired. They are quickly and easily attached, according to the manufacturer.

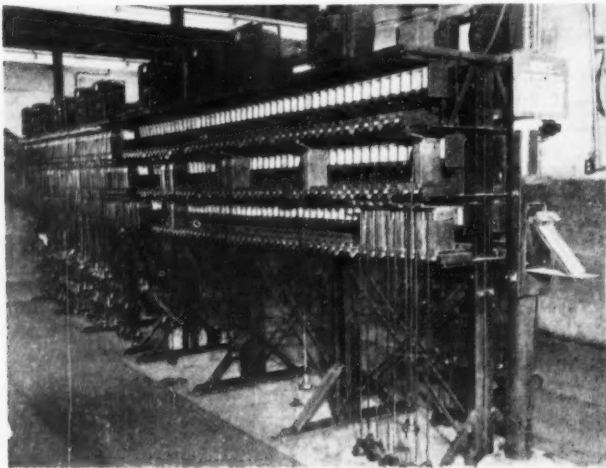
The new side panels permit use of the oil-burning heat machine in a great number of applications where concentration of its 189,000 BTUs in one direction is required, the company states. Ordinarily the machine sprays out heat in three directions just above the floor. Special one-direction heat applications include heating freight cars, Construction machinery, parts

of buildings, loading docks, garages, barns, warehouses; drying plaster and other materials; curing crops, warming valves and tanks, de-icing machinery, thawing pipes and frozen ground, etc.



Write for information to Fageol Heat Machine Co., 5725 Mt. Elliott Avenue, Detroit 11, Michigan.





General view of the R-4 Edison Miner Lamp charging racks at the "self-service" lamphouse of Duquesne Light Company at Warwick Mine in Green County, Pennsylvania. These racks hold 588 Edison Model R-4 lamps.



Maintenance of the Edison R-4 lamps at Warwick requires the least hours per shift. This gives the lamphouse attendant the remaining time to handle several other duties. Batteries are watered and cleaned once a week.

Self Service Lamp House at Three Shift Mines of the Duquesne Light Company

Who knows the importance of dependable illumination better than the officials of an electric utility company? Where is lighting more important to production and safety than in an underground coal mine? Recognizing these facts, the Du-

quesne Light Company uses every modern technique and type of equipment to assure an unfailing supply of light for individual miners at its Warwick Mines in Greene County, Pennsylvania.

Warwick Mines No. 1 and No. 2

operate three shifts a day to maintain a steady flow of coal for the company's generating stations, which provide light and power for the heavily industrialized Pittsburgh area. Total production of both mines averages between 5400 and 6000 tons daily. All of this output is moved by barge down the Monongahela River to the power plants of Duquesne Light Company.

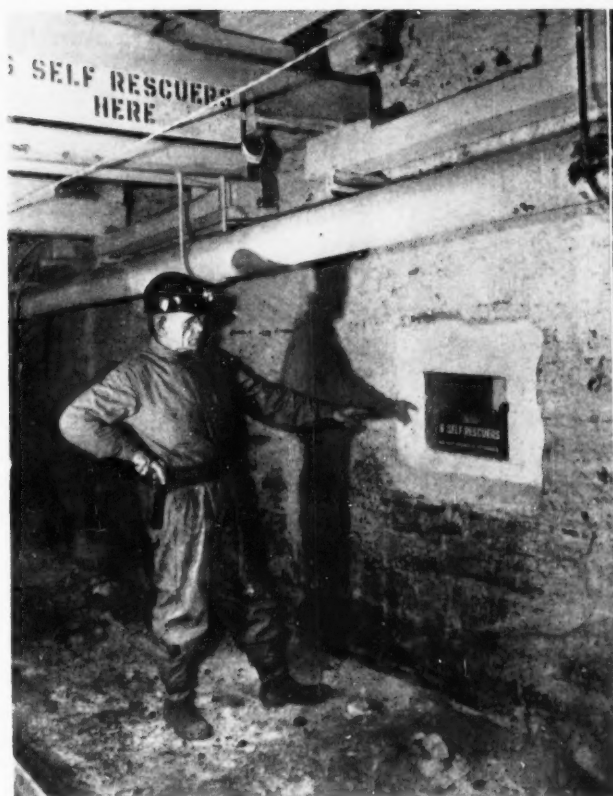
With two mines operating—one in the low (average 50-in.) Sewickley seam and the other, about 90 feet below in the high (96-in.) Pittsburgh seam—scheduling mantrips to prevent costly delays of personnel between the change house and the working faces posed quite a problem. Mantrips from both mines exit from two separate slope entries and unload at a single terminal, a few hundred feet from the change house.

Two principal factors in the solution of this problem have been: 1. Staggering the time of mantrip arrivals from each mine 15 minutes apart, and 2. Utilizing a self-service system for the lamphouse to permit the men to move quickly and without congestion.

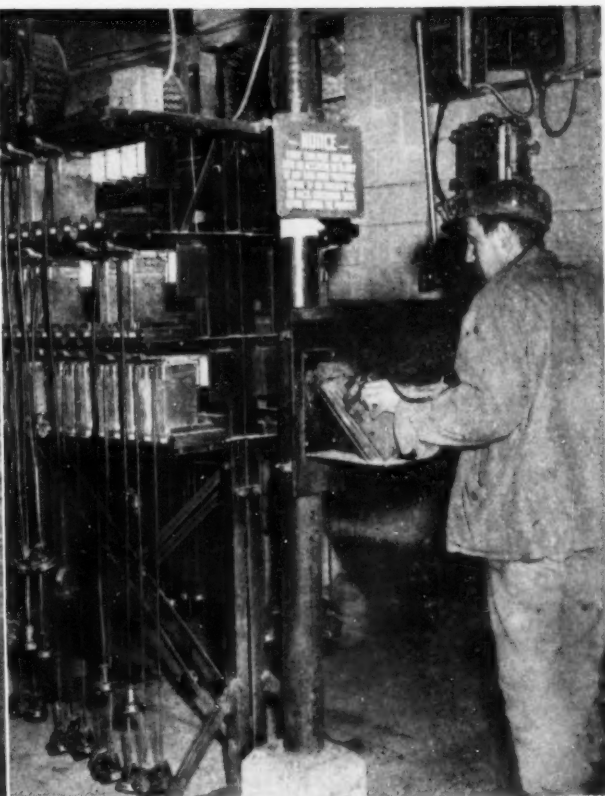
With 611 Edison cap lamps in service daily, the lamphouse operation is considered vital to overall production by company officials. As explained by John Stephenson, superintendent at Warwick: "A total of 12 sections are being worked in both mines and we must have



Dispatcher's office at the Warwick Mines of Duquesne Light Company is adjacent to the rotary car dumps. Use of the frequency-modulated voice communication system between locomotives, the dispatcher's office, superintendent's office, and repair shops has increased efficiency and safety in overall operation. Three MinePhone units are installed on mine locomotives, which handle not only coal trips, but mantrips as well. The foreman's jeep also is MinePhone-equipped. Extension microphones and speakers, operating from the single set in the dispatcher's office, are installed in the superintendent's office and the shop. The dispatcher's speaker and extension relay box are shown upper left in this photo.



"Life Preservers" for miners are these MSA Self Rescuers, which are strategically located throughout the haulageways of the Duquesne Light Company's Warwick Mine in Greene County, Pennsylvania. Packed in dustproof plastic bags and cardboard cartons, six Self Rescuers are stored in each metal case. At Warwick, each cache case is placed in a recess cut into the haulageway wall and reinforced with concrete block. Location of the cache is identified by a sign and a red reflector light.



Efficient, dependable lighting is considered by officials of Warwick Mines to be just as vital a tool for underground coal production as any other piece of mining machinery. The self-service lamp distribution system has proved to be the most economical and effective means of operating the lamphouse at Warwick. Miners unlock lids of lamp batteries on a magnet as they enter the lamphouse.

dependable miners lamps and an effective lamp distribution and maintenance program to prevent not only lost time for men and machinery but loss of production as well."

Since the self-service lamphouse system was inaugurated at Warwick, lamp distribution has never bottlenecked personnel during shift changes. The charging racks and lamp maintenance room are located on the ground floor of the modern change house. It takes less than a minute from the time a miner enters the lamp room for him to place his Edison cap lamp in its proper charging space and be on his way to the showers. A double row of charging racks arranged conveniently between the lamphouse door and the stairway to the shower room expedites movement of men through the lamproom. A magnetic lock opener is installed at the front end of charging racks, near the entrance to quickly open the battery for charging as the men move by it to the racks. The on-

coming shift moves along one side of the rack to pick up their lamps while the off-going shift replaces their lamps on the other side.

Warwick was one of the first mines in the country to install Edison model R-4 cap lamps, introduced by Mine Safety Appliances Company and Thomas A. Edison, Inc., in 1949. The R-4 lamp, according to Mr. Stephenson, has proved to be highly suitable for the self-service lamphouse arrangement, and has effectively demonstrated its durability and dependability underground. Failures of R-4 lamps have been extremely rare, Mr. Stephenson said. No miner has had to leave his job to obtain another cap lamp since the R-4 Edison lamps have been in service.

A minimum amount of maintenance is required for these lamps. One lamphouse attendant is on duty for each shift and, is assigned to the same group of lamps used by his shift at all times. One of the main advantages of the self-service

system is the time saved in overall lamproom operations. Lamp men need to spend only about three hours of their shift on lamp maintenance and devote the remainder of the time to other duties around the change house. The attendant also maintains flame safety lamps.

By assigning one attendant on each shift to be responsible for the lamphouse, management feels that greater lamp-handling efficiency has resulted, and production delays caused by lack of adequate illumination underground have been avoided. The cost of keeping this positive control over lamp charging and maintenance is negligible in comparison with the expense of lost time resulting from lamps not being properly charged and maintained. Labor being the largest single cost factor in today's modern mining operations, the loss of any productive manhours is a serious consideration.

The lamp identification system used at Warwick consists of different colored checks which are placed



Approved by the U. S. Bureau of Mines, MSA Self Rescuers provide protection for at least 30 minutes against carbon monoxide concentrations usually found after mine fires or explosions. The life-saving chemical cartridge in the unit is sealed hermetically against deterioration and may be replaced after use. At Warwick's two mines, one in the Pittsburgh seam and the other in the Sewickley seam, 54 cache assembly cases of Self Rescuers are provided.

Mantrip cars, parked near the working sections of Warwick Mine, are equipped with cache assembly units of Self Rescuers. They are readily accessible in an emergency at the face or enroute when carrying men. These compact units will not supply oxygen, but provide respiratory protection against carbon monoxide to enable a miner to reach fresh air.

by the men on a hook below the charging position of each lamp when the lamp is removed for use. Four colors have been adopted. White tags are used for the day crew—clean-up men, ditchers, track men, etc. Blue tags identify the first shift; yellow, the second shift, and red, the third shift. A separate lamp rack is used by supervisory personnel.

One of the routine lamp maintenance jobs is watering batteries. This operation is performed weekly by lamp men assigned to the individual shifts. A mimeographed sheet listing all lamp numbers is used to keep a record of the regular watering chore. Using a small dolly, a lamp man can remove 45 batteries from racks and water and clean them at a rate of about one each minute. The R-4 lamp is unique in having a four-cell nickel-iron-alkaline battery, to give it the dependable service and additional illuminating power and in having a single screw which quickly removes the four pressure control valves so that adding distilled water to the cell is quickly and easily accomplished.

At Warwick, management has eliminated by its efficient lamp-house practices, one of the more common causes of lost manhours—undependable lighting.

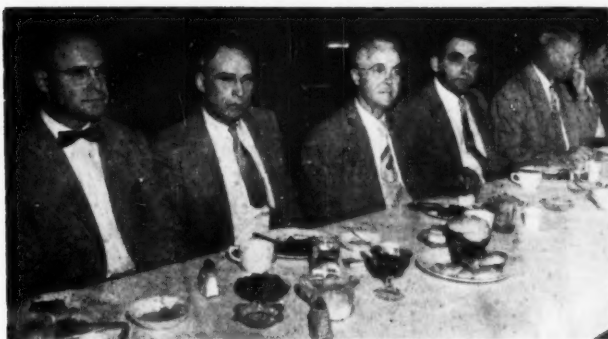
Duquesne Light Company modernized its entire Warwick Mines operation in 1942 by construction of a new river harbor, tippie and preparation plant, and several other facilities. Among the more recent

improvements at the mine has been the installation of an MSA Mine-Phone system to serve the complicated workings of No. 1 Mine. Use of the frequency modulated instantaneous communications has

been instrumental in coordinating trip movements from both mines which unload coal at a single car dump. One dispatcher handles the entire trip scheduling for both mines.



This "extension microphone and speaker installation in the main office at Warwick Mines enables the superintendent to communicate instantly with the foreman, mine locomotives, the dispatcher and the shop. With a total of 500 four-ton cars operating in the low coal seam, and 200 in the high coal, delivering 5400 to 6000 tons per day at the dump requires prompt and precise orders and instructions. Twelve sections are working in both mines, eleven using mechanical loaders and one using a continuous mining machine. Scheduling loaded trips and empties in and out of the two drift entries of the mines, as well as reporting machinery breakdowns and other incidents, has been improved substantially through the use of MinePhones. The units operate in the mine on power taken off the trolley line. The dispatcher can be heard by all locomotive motormen simultaneously because the Minephones are all interconnected through the mines D. C. power system.



The speakers table. Left: H. W. Gee, Jr., V-Pres., Gee Electric Co.; T. C. Higgins and R. S. James, Bureau of Mines; Micheal Duda, Master Mech.; Powhatan Mining Co. and President of the Branch.



The speakers table. Left: V. R. Jones, Supt. Windsor Power House Coal Co.; Ernest Schull, Gen. Mgr., The Lorain Coal and Dock Co.; O. B. Pryor, V-Pres., Valley Camp Coal Co.; P. C. Beutel, Mgr. Coal Div. Columbia Southern Chemical Corp.

Ohio Valley Branch Meeting of the Mining Electro-Mechanical Maintenance Association

The Ohio Valley Branch of The Mining Electro-Mechanical Maintenance Association was held at the American Legion Hall, Martins Ferry, Ohio, September 9. This



Micheal Duda, President, addressing the group.

branch of that association takes in the deep coal mining area of Ohio and the entire Panhandle of West Virginia. It is one of the later additions to the association and is one of the large, active ones.

The principle talk of the meeting was given by James Reilly, Vice President of the Hanna Coal Company, who brought to the attention of those present the fact that during war times an average of 130 million more tons of coal is required than in normal times. After the last war, the coal industry lost not only that 130 million tons per year, but also lost another 100 million tons of railroad fuel which went to diesel oil.

Stressing the importance of the maintenance man in mining coal, from the standpoint of the production executive, Mr. Reilly asked their cooperation in producing

"that little bit of extra tonnage" which means so much in running a business. That extra tonnage often means the purchase of new and better machinery. That extra tonnage often is the difference be-



E. F. Mauer, Gen. Mgr. 1, 2, and 3 Mines of the Powhatan Mining Co., was master of ceremonies.



Left: Frank Postaye, Safety Dir., Frank Kovalo, Mechanic, C. J. Terrion, Mechanic and welder, John Knight, Master Mech., and Robert Frodle, all from Powhatan Mining Co.



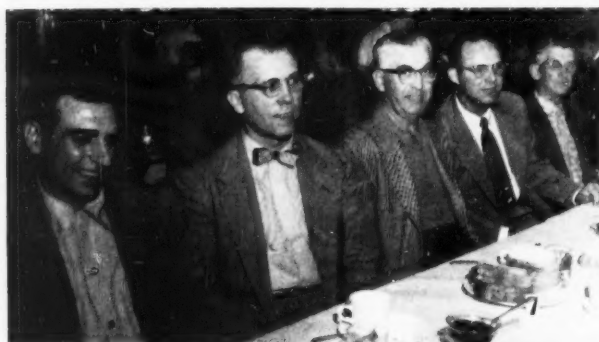
Left to right: Nick Daniels, Walter Smather, Frank Homko, John Kirby, A. R. Bode all from Mine No. 3, Powhatan Mining Co.



Left: R. E. Joslin, Fairmont Machinery Co.; J. C. Beck, The Ohio Power Co.; W. E. Corbett, Saginaw Dock and Terminal Coal Co.; John E. Merryman, Hanna Coal Co.; C. G. Van Horne, Saginaw Dock and Terminal Coal Co.



Left: Taylor V. Johns, Wm. J. Buswink, John Barry, Don W. Snow and W. J. Symons, all of the United States Bureau of Mines, St. Clairsville, Ohio.



Left: Rom. Zauhini, Sectl. Fore.; Michael Yonko, Gen. Mine Fre.; Steve Novacoski, Nech.; Chas. R. Heidelberg, Safety Dir.; Chas. C. Neff, retired Master Mech, all of the Powhatan Mining Co.



Left: Chas. Brown, Jr., Mechanic; Richard Harrison, Electrician, both of the Windsor Power House Coal Co.; Frank E. Thalman, Warwood Armature Repair Co.; Philip F. Andes, Asst. Safety Dir., Powhatan Mining Co.; Edward J. Marron, Coal Inspector, United States Bureau of Mines.

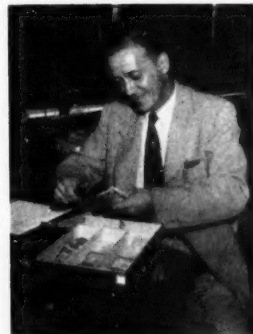


James Reilly, V-Pres., Hanna Coal Co., was the principle speaker.

tween survival or bankruptcy in hard times.

Mechanical maintenance plays a vastly greater part in our lives than the average person realizes. Without good, conscientious machanical maintenance men our form of life could not go on. New machines and gadgets may not all be created in the minds of maintenance men but practically all the bugs are removed and suggestions for betterment are made by the maintenance man.

The development of machinery



C. D. Alleman, Sec. Treas., of the branch counting receipts for the dinner.



Left: Marshall Schull, Louis Capers, Leo A. Ballo, Bob Davis, all with The Lorain Coal and Dock Co.; and J. L. Eakins, United States Bureau of Mines.



Left: Roy Heidelberg, foreman; T. P. Shaner, Tipple Mech.; Kenneth Smith, Electrician; Bill Driscoll, Chief Mech.; Henry Mottle, Chief, Mech., all of the Powhatan Mining Co.



S. P. Davis and W. B. Carver, Kanawha Mfg. Co.; E. W. Bruner and R. E. Ferry, Westinghouse Electric Corp.



Harrison G. Dickey, Westinghouse Electric Corp.; E. E. Gaston, Electrical Eng., Hanna Coal Co.; A. M. Newcome, Electrical Eng., Valley Camp Coal Co.; Monroe J. Mechling, Safety Dir., Valley Camp Coal Co.



Left: R. N. Wilson, Mfg. Rep.; L. H. Durban, Supt., Asst. Supt. Georgetown Cleaning Plant, Hanna Coal Co.; R. V. Bovenizer, B. D. Eley, and W. A. Black, The Ohio Power Co.



Left: John J. Mitchell, Draftsman; Howard Dickson, Master Mech.; Geo. J. Mitchell, Chief Eng.; Frank Accrosio, Machinist, all of the Powhatan Mining Co.; and Henry Miller, of the Windsor Power House Coal Co.

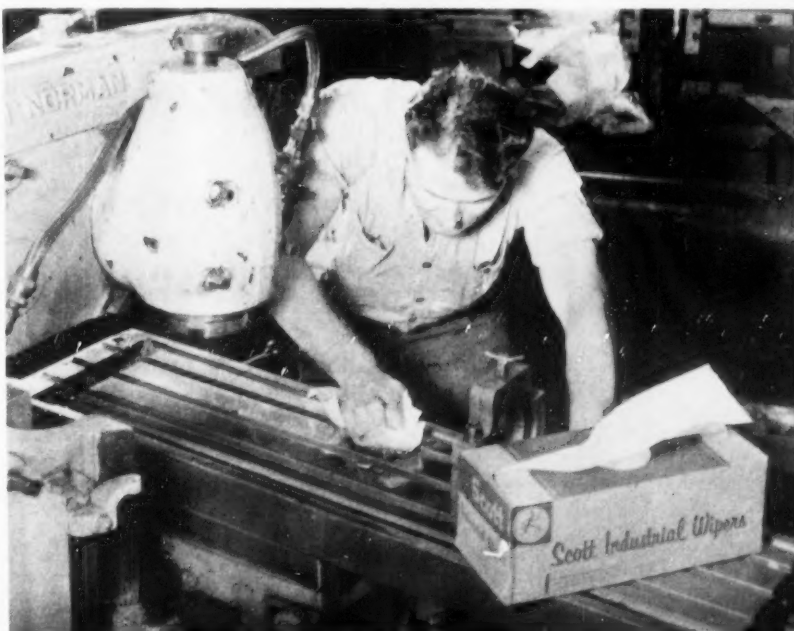
to lighten man's labor has lead to the development of many machines and gadgets for man's comfort and pleasure. Labor and time saving machinery enabled this country to outproduce any country in the world. It has given us the highest standard of living ever known on this world.

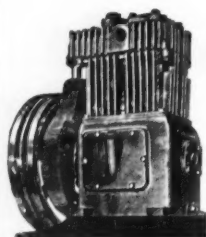
Greater industrial productivity brought high wages and shorter work hours. High wages and more leisure time brought a demand unheard of for household goods as well as for means of entertain-

ment at home, such as the later radio and television sets. Still greater productivity will bring more of the necessities of life to the average working man's home,

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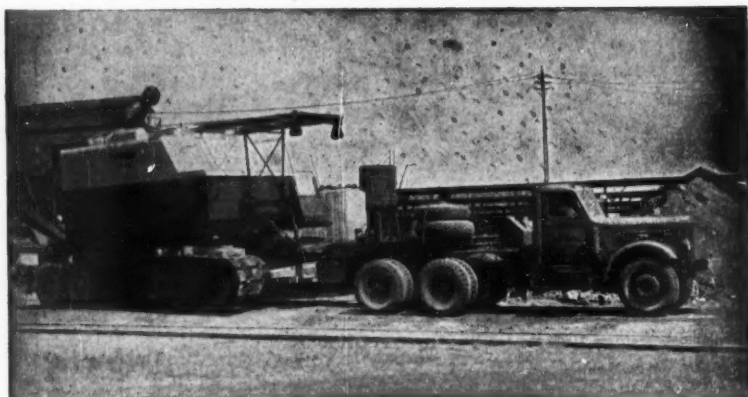
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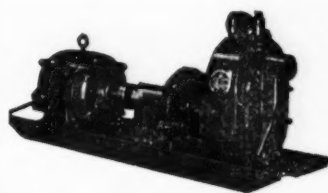
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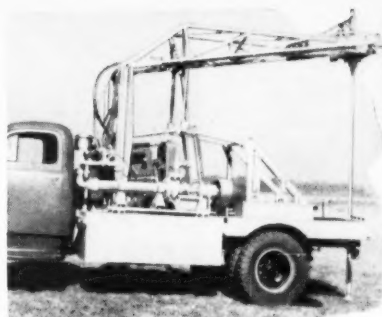
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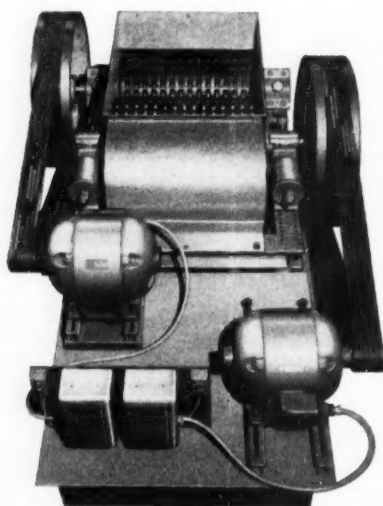
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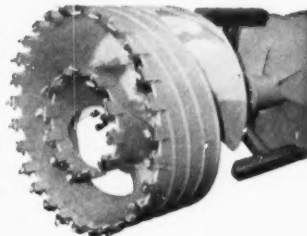
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